Application No. 09/824,665
Amendment dated September 25, 2●
Reply to Office Action dated July 7, 2003

Atty Docket 00 P 7778 US 01

Remarks

Claims 11, 18, and 24 were objected to. Claim 9 was rejected under 35 § U.S.C. 112, second paragraph as being indefinite. Claims 1-4, 6, 7, 9-17, 19, 20, 22-24, 28, and 29 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,507,765 to Hopkins et al. ("Hopkins et al."). In addition, claims 21, 25-27, and 30-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hopkins et al. Finally, claims 5 and 8 were rejected under 35 U.S.C. § 102(e) as being unpatentable over Hopkins et al in view of U.S. Patent No. 6,129,449 to McCain et al. ("McCain et al.")

By virtue of this amendment, claims 1, 7, 18-20, 22, 25, and 28 have been amended. Claims 5, 6, 8-11, 24 have been canceled without prejudice.

Claims 1-4, 7, 12-23, and 25-31 are currently pending. Reconsideration of the application as amended and in view of the following remarks is respectfully requested.

A.   Objection to claims 11, 18, and 24:

Claims 11, 18, and 24 were objected to. Claims 11 and 24 were objected to on the grounds that it was unclear if all of the limitations of the independent claims were included and claim 18 was objected to on the ground that it was incomplete.

Applicants have canceled claims 11 and 24 without prejudice. Applicants have amended claim 18 to complete the claim, which, due to a typographical error, was originally submitted in incomplete form.

Withdrawal of the objection to claims 11, 18, and 24 is respectfully requested.

B.   Rejections to claim 9 under 35 U.S.C. § 112, second paragraph:

Claim 9 was rejected under 35 U.S.C. 112, second paragraph as being indefinite. Applicants have canceled claim 9 without prejudice.

Withdrawal of the rejections to claim 9 is respectfully requested.

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C.   Rejections to claims 1-4, 6, 7, 9-17, 19, 20, 22-24, 28, and 29 under 35 U.S.C. § 102(e):

Claims 1-4, 6, 7, 9-17, 19, 20, 22-24, 28, and 29 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,507,765 to Hopkins et al. ("Hopkins et al.").

Hopkins et al. describes a computer integrated manufacturing control and information system. The system includes a plurality of processing machines and non-intrusive data taps 30 for non-intrusively obtaining electrical parameter signals from the processing machines in real time. The system also includes a plurality of command apparatus in communication with an associated data tap 30 and a summary station for providing real-time summary and detailed analysis of the parameter signals.

Applicants have amended claim 1 to include the feature of claim 6, which was canceled without prejudice. Independent claim 1, as amended, recites a system for assisting operators in electronics manufacturing plants that includes, among other features "a handheld device including a display coupled to [a] processor."

Hopkins et al. does not describe at least that feature, but rather describes "a handheld bar code scanner 42" associated with a single processing machine for "scanning all parts loaded onto a particular machine" to the CICMS terminal 36 associated with the same machine. Column 5, lines 54-58. The office action refers to column 6, lines 39-40 of Hopkins et al. as disclosure for a handheld device including bar code scanner and to element 42 in Fig. 1 as disclosure that a display and processor are part of the handheld device. However, handheld bar code scanner 42 is not described as including a display. Indeed including a display on the handheld bar code scanner 42 of Hopkins et al. would make no sense, since scanner 42 is described as a device for inputting parts information into the system and not as a device for providing information to an operator. On the contrary, the system outputs information to a display on a CIMCIS terminal 36 associated with the processing machine, which is not a handheld device. See, e.g. column 7, lines 4-10.

Withdrawal of the rejections to independent claim 1 and to claims 2-4, 7, and 8, which depend from claim 1 under 35 U.S.C. §102(e) is therefore respectfully requested.

Independent claim 12 recites a printed circuit board assembly line that includes, among other features, "a screen print monitoring device for sensing a solder level at the screen printer . .

. . a feed tape and a placement monitor for monitoring at least one of a the existence of a feed tape splice and the number of components on the feed tape." The specification describes, for example, solder meter 13 shown in Fig. 1 of the present application and described in the accompanying text.

The office action refers to the text of Hopkins et al. at column 4, lines 35-38, 52-58 and column 5, lines 21-30 for a description of a screen print monitoring device for sensing a solder level at the screen printer. Applicants submit that the referenced text describes a "screening machine outfitted with various sensors for communicating messages or parameters back to host computer 18 regarding the *performance* of the screening procedure." The communications or parameter signals are described as including, for example program instructions "to screen a particular pattern of solder." Applicants submit that there is simply no description of a sensor for sensing a solder level at the screen printer as recited in claim 12.

Withdrawal of the rejections to independent claim 12 and to claims 13-17, which depend from claim 12 under 35 U.S.C. §102(e) is therefore respectfully requested.

Independent claim 19 has been amended to specify that the data generated is "task data relating to necessary operator maintenance tasks." As amended, claim 19 recites a method for manufacturing a printed circuit board that includes the step of "monitoring at least one of the screen printer and the placement machine so as to generate task data relating to necessary operator maintenance tasks." Dependent claims 20 and 22 were also amended to be consistent with the changes to claim 19.

Applicant respectfully submits that Hopkins et al. differs from claim 19 in that the data generated and presented to the operator is related to status and performance of the machine, and not task data relating to necessary operator maintenance tasks as recited in claim 19.

Withdrawal of the rejections to independent claim 19 and to claims 20, 22, and 23, which depend from claim 19 under 35 U.S.C. §102(e) is therefore respectfully requested.

Independent claim 28 recites a handheld device that includes, among other features "a display . . . displaying task data related to the screen printer and the component placement machine."

As previously discussed, applicant respectfully submits that Hopkins et al. does not describe a handheld device having a display, nor a display for displaying task data.

Withdrawal of the rejections to independent claim 28 and dependent claim 29, which depends from claim 28 under 35 U.S.C. §102(e) is therefore respectfully requested.

D.   Rejections to claims 21, 25-27, and 30-31 under 35 U.S.C. § 103:

Claims 21, 25-27, and 30-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hopkins et al.

Claim 21 depends from claim 19. As discussed above, Hopkins et al. does not describe the feature of "monitoring at least one of the screen printer and the placement machine so as to generate task data relating to necessary operator maintenance tasks." Applicants further submit that Hopkins et al. also does not teach or suggest this feature. Operator maintenance tasks are not discussed or even mentioned in Hopkins et al. and there is no motivation to provide for the generation of such task data.

Withdrawal of the rejections to dependent claim 21 under 35 U.S.C. §103 is therefore respectfully requested.

Independent claim 25 recites a method for operating an electronics assembly line that includes the features, among other features, of generating "electronic task data" as well as "organizing the task data so as to form a list of tasks relating to maintenance of the assembly line" and "displaying the list of tasks."

As already discussed, Applicants submit that the generation of task data is neither taught nor suggested by Hopkins et al. Applicants further submit that there is no suggestion for the features of forming a list of tasks relating to maintenance of the assembly line, nor is there a suggestion for displaying those tasks. The office action states that tasks are being treated as the same as states. Applicants respectfully submit that "tasks" as recited in claim 25 and described in the application, are clearly distinct from the "states" described in Hopkins et al. Applicants have nevertheless amended claim 25, without thereby narrowing its scope, to more clearly define the tasks as "relating to maintenance of the assembly line."

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Withdrawal of the rejections to independent claim 25 and claims 26 and 27, which

depend from claim 25 under 35 U.S.C. §103 is therefore respectfully requested.

Independent claim 30 recites a method for scheduling tasks on an assembly line that

includes the features of "determining a first [and] a second task time as a function of the input

data" and "displaying both the first task time and the second task time." Examples of task times

are shown, for example, in the display on Fig. 2 of the present application.

Independent claim 31 recites executable process steps operative to control a processor,

stored on a processor readable medium, for monitoring an assembly line to schedule

maintenance. The steps include "determining a first [and] a second task time as a function of the

input data" and "displaying both the first task time and the second task time."

Applicants respectfully submit that Hopkins et al. fails to teach or suggest "a method for

scheduling tasks" according to the preamble of claim 30 or any steps for "monitoring an

assembly line to schedule maintenance" according to the preamble of claim 31, nor does

Hopkins et al. teach anything about specific tasks. Hopkins et al. further does not teach or

suggest determining a time required to perform a task.

Withdrawal of the rejections to independent claims 30 and 31 under 35 U.S.C. §103 is

therefore respectfully requested.

B.   Rejections to claims 5 and 8 under 35 U.S.C. § 103:

Claims 5 and 8 were rejected under 35 U.S.C. § 102(e) as being unpatentable over

Hopkins et al in view McCain et al.

Applicants have canceled claims 5 and 8 without prejudice. Withdrawal of the rejections

to claims 5 and 8 is therefore respectfully requested.

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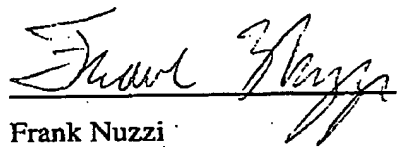Reply to Office Action dated July 7, 2003

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CONCLUSION

In view of the amendments and the above remarks, Applicants respectfully submit that the presently pending claims are in condition for allowance.

An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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